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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,182	04/16/2004	Naiyong Jing	56211US008	9804
32692 7590 12/28/2006 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER MCNALLY, DANIEL	
			ART UNIT	PAPER NUMBER
			1733	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/28/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/826,182

Applicant(s)

JING ET AL.

Examiner

Daniel McNally

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 29-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :7/27/04, 7/30/04, 08/31/05, 3/28/06, 7/10/06.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species: Group I claims 1-3 and 5-28, Group II claims 4 and 29-40. The species are independent or distinct because Group I and II are mutually exclusive. Group I places a bonding composition between a fluoropolymer and a substrate and Group II requires mixing the fluoropolymer with the bonding composition and contacting the mixture to the substrate.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

2. During a telephone conversation with Brian Szymanski on December 7, 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-3 and 5-28. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4 and 29-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,3,5,6,9, 11 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Baum et al. [US-3338345].

Baum discloses a method of bonding a fluorocarbon resin to a glass substrate. The method comprises supplying a fluorocarbon resin and a silicate glass, treating the glass with an amino-functional silane coupling agent, applying the fluorocarbon to the treated glass and curing at an elevated temperature as recited in claim 1 (column 1, lines 44-53). The coupling agent is applied to the glass as recited in claim 3. Baum discloses the fluorocarbon resin as tetrafluoroethylene as recited in claim 9 (column 3, lines 20-38). Baum discloses a list of possible amino-functional silane coupling agents (column 2, lines 39-61). While applying heat to the article, Baum discloses using a weight to apply pressure to the article as recited in claim 16 (column 4, line 22-30).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 and 5-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grootaert et al. [US-588246] in view of Fukushi [US-5658671].

Grootaert discloses a method of bonding fluoropolymer material to a substrate using a bonding composition. The bonding composition is an amino-substituted organo silane composition (column 3, line 55 – column 4, line 19). Grootaert discloses bonding the substrates together using methods known in the art. However, Grootaert does not disclose heating the combined substrates to form a bonded article.

Fukushi discloses a method of bonding a fluoroelastomer to a substrate using a silane coupling agent (column 5, lines 17-20). Fukushi discloses using elevated temperature for a period of time to bond the fluoroelastomer to the substrate.

It would have been obvious to one of ordinary skill in the art at the time of invention to perform the bonding of Grootaert using heat as taught by Fukushi in order to create a strong bond between the fluoropolymer and the substrate.

With regard to claims 2, 3 and 17 Grootaert discloses providing bonding composition, a substrate and fluoropolymer, and applying the bonding composition to either one of or both of the substrate or fluoropolymer (column 2, lines 25-31).

With regard to claims 5,6,7,8,18, 19, 20, and 21 Gootaert discloses a variety of substrate material. The substrate materials can include inorganic materials, claims 5 and 18, such as metals or glass, claims 6 and 19. The substrate can include organic materials, claims 7 and 20, such as polysulfide, polyimide or other "non-fluorinated" polymers, claims 8 and 21. (column 3, lines 41-54).

With regard to claims 9 and 22, Gootaert discloses the fluoropolymer comprising vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene or chlorotrifluoroethylene (column 2, lines 45-61).

With regard to claim 10, Gootaert discloses the bonding composition comprises a hydrolysable group (column 3, lines 55-60).

With regard to claims 11 and 23, Gootaert discloses a list of aminosilane compounds useful as the bonding composition (column 4, lines 49-60).

With regard to claims 12, 13, 24, and 25, Gootaert discloses using a fluoroaliphatic sulfonyl compound (column 7, lines 32-47).

With regard to claims 14, 15, 26 and 27, Fukushi discloses applying heat to the fluoroelastomer, silane coupling agent and substrate article. Fukushi explicitly discloses heating the article to 200°C which meets the requirements claimed temperature ranges.

With regard to claims 16 and 28, Gootaert discloses compression molding as a possible method of bonding the article, which would involve applying pressure to the article (column 8, lines 35-42).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Plueddemann [US-3306800] discloses a method of bonding two substrates using a bonding material applied to either one of the substrates.


Effenberger [US-3787281] discloses using an amino-functional, water hydrolysable organo silane as the bonding material between glass and polytetrafluoroethylene.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel McNally whose telephone number is (571) 272-2685. The examiner can normally be reached on Monday - Friday 8:00AM-4:30PM.

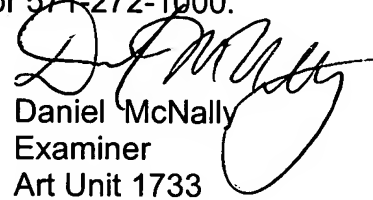
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JEFF N. AFTERGUT
PRIMARY EXAMINER
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Daniel McNally
Examiner
Art Unit 1733

dpm
December 7, 2006